

## **REMARKS**

This is in response to the non-final office action, mailed June 18, 2007. In the patent application, claims 1-49 are pending. In the office action, claims 27-32 and 35-49 are allowed, claims 1, 3-5, 7-9, 23-26, 33 and 34 are rejected, and claims 2, 6 and 10-22 are objected to but would be allowable if rewritten in independent form. Claims 1 and 27 have been amended in a manner to particularly point out and claim the present invention. In particular, independent claims 1 and 27 have been amended to point out that the optics are arranged to guide the first light beam transversal directly to data tracks of the optical storage medium. Dependent claims 2, 7, 10, 12, 33, 35 and 37 have also been amended to conform to the corresponding amended language in independent claims 1 and 27 from which they depend. Support for these amendments is found in the application as filed, including Figures 1a-b, 2a-c, 7b-c and accompanying description in the specification at page 2, lines 27-31, page 3, lines 1-34, page 8, lines 29-31, page 10, lines 8-10, page 11, lines 29-32, page 12, line 30 through page 13, line 9, page 19, lines 20-31, and page 20, lines 9-26.

### ***Claim Rejections – 35 USC §112***

At section 5 of the office action, claims 33 and 34 are rejected under 35 U.S.C 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the language of claim 33 is inconsistent with the recitation in base claim 27 with regard to both first and second light beams being guided transversal towards said data tracks of the optical storage medium. Applicants have amended claim 27 to remove the phrase "and said second light beam are" thereby removing the indefiniteness of claim 33. Since Applicants have amended claim 27 to replace "transversal towards" with "transversal directly to", the same amendment has also been made in claim 33. Support for the amendment can be found on page 10 of the specification in conjunction with Figures 2a, 2b, and 2c. No new matter has been introduced. Claim 34 is

dependent upon claim 33 and recites features not recited in claim 33. Claims 33 and 34, as amended, overcome the indefiniteness rejection.

### ***Claim Rejections – 35 USC §103***

At section 7 of the office action, claims 1, 3-5, 7-9 and 23-26 are rejected under 35 U.S.C 103(a) as being unpatentable over *Spruit et al.* (US 5,442,597, hereafter referred to as *Spruit*) in view of *Wakabayashi et al.* (US 4,669,073, hereafter referred to as *Wakabayashi*).

Applicants respectfully disagree.

According to the present invention, the access unit 10 is arranged to move in x (vertical), y (horizontal) and z (longitudinal) directions about a pivot point, and at least one light beam is produced which arrives at the data medium at a non-perpendicular angle. As set forth in claim 1, the “access unit is arranged to pivot on one end at a pivot point in order to move three-dimensionally in relation to the pivot point, said optics and said detector are arranged to move in accordance with the movement of said access unit, said optics are arranged to guide said first light beam transversal directly to data tracks of the optical storage medium in accordance with the movement of said access unit”. The Office asserts that since a lens 35 is disclosed in *Spruit*, there must also be an inherent “lens holder” where lens 35 is mounted. The Office further suggests that the inherent “lens holder” is equivalent to “an access unit” as disclosed in claim 1. As set forth in claim 1, the device of the claimed invention comprises “at least one access unit for reading out data from and writing data to said optical storage medium;” the access unit is not a simple lens holder, but rather a device having the capability for reading and writing data.

The Office also makes the assumption that in *Spruit* it is understood that elements 35, 45 and 18 are all mounted on the same lens holder. There is no implicit or explicit support for this assumption in *Spruit*. For example, the detector 18 shown in Figure 6 of *Spruit* can be interpreted to be a separate component as well (as, for example, in Figure 1 of *Spruit*). The element 45 of *Spruit* depicted in Figure 7a is an

acousto-optical or electro-optical deflection element which is energized with voltage in order to deflect the laser beam before the lens/objective system 35 (col. 9, lines 55-65).

It would not be obvious to a person of ordinary skill in the art at the time of the present invention to mount such a component 45 requiring a specific voltage from a power source to the "lens holder", as asserted by the Office. Furthermore, *Spruit* cannot be equivalent to the access unit of the present invention, since the access unit has the functionality of reading out data and writing data to the optical storage medium. In support, claim 1 sets forth "a detector arranged to detect light beams that are reflected from the surface of the optical storage medium, wherein said access unit is arranged to pivot on one end at a pivot point in order to move three-dimensionally in relation to the pivot point, said optics and said detector are arranged to move in accordance with the movement of said access unit, said optics are arranged to guide said first light beam transversal directly to data tracks of the optical storage medium in accordance with the movement of said access unit, and said detector is arranged to receive the reflected beams of said first light beam or said second light beam from said data tracks of the optical storage medium in order to control the movement of said access unit." As such, the structure of the claimed access unit cannot be equivalent to a simple "lens holder." For the foregoing reasons, *Spruit* does not disclose the access unit as claimed.

Further, the Office contends that *Spruit* discloses "said optics are arranged to guide said first light beam transversal towards data tracks of the optical storage medium in accordance with the movement of the access unit" as shown in Figure 7a of *Spruit*. According to this reasoning, the Office interprets element 45 to be the optics, however, Figure 7a of *Spruit* clearly shows a beam being bent through an optical device to the data medium 35. As shown in Figure 7a, said component 45 deflects the beam *b<sub>r</sub>* towards the lens 35 but neither Figure 7a nor the description shows what happens between the lens 35 and the data tracks; in other words, it is not shown whether the beam arrives to the data tracks transversal or perpendicular. Moreover, as stated earlier with regard to deflection element 45 of *Spruit*, this element is only arranged to guide the first light beam transversal towards the lens 35 in accordance with the voltage supplied to the element 45 (col. 9, lines 57-65), not directly to the data tracks in

accordance with the movement of the access unit. Therefore, *Spruit* does not disclose the feature "said optics are arranged to guide said first light beam transversal directly to data tracks of the optical storage medium in accordance with the movement of the access unit" as set forth in claim 1 of the present application. Applicants have amended claims 1 and 27 to change the word "towards" to "directly to" in order to further clarify this feature of guiding said first light beam transversal to the data tracks. Applicants have also amended claims 2, 7, 10, 12, 33, 35 and 37 to change the word "towards" to "directly to" in order to conform these dependent claims with the corresponding language in the independent claims from which they depend.

In addition, the Office suggests a similar assumption with regard to the feature that "said detector is arranged to receive the reflected beams of said first light beam or said second light beam from said data tracks of the optical storage medium in order to control the movement of said access unit", as set forth in claim 1. As discussed above, the detector 18 of *Spruit* does not explicitly or implicitly sit in the "lens holder." *Spruit* neither explicitly nor implicitly discloses that the detector 18 controls the movement of the "lens holder." On the contrary, *Spruit* teaches that there is needed a dedicated second detector 23 (Figure 1 of *Spruit*) to be connected to the "lens holder" in order to correct tracking and focusing (col. 7, lines 15-25).

With regard to claim 1, the Office acknowledges that *Spruit* does not disclose that the "lens holder" is arranged to pivot on one end at the pivot point in order to move three-dimensionally in relation to the pivot point. However, the Office alleges that this would be obvious in view of the teachings of *Wakabayashi* when combined with the teachings of *Spruit*.

Applicants respectfully disagree.

*Wakabayashi* discloses a rotary pick-up head actuator (access unit) moving and controlling the objective lens rotatively around the center axis of rotation in the direction of crossing tracks on a recording surface of the optical disk for both seeking and track following (col. 2, lines 47-52). In other words, *Wakabayashi* merely discloses a two-

dimensional rotation of the access unit. *Wakabayashi* teaches that a pick-up head comprises a rotary actuator and a rotary attachment which is fixed on and rotated with the actuator (Figures 1 and 2, col. 3, lines 35-38), and that elastic plates are fixed at one end to the rotary attachment while the other end remains free (col. 3, lines 42-43). This means that if the free end of the elastic plates could vibrate to some extent in the direction perpendicular to the tracks (by means of magnetic coil and yokes), the other end fixed to the rotary attachment is able to rotate still only two-dimensionally.

The same concept applies to the embodiment of Figure 6 of *Wakabayashi* where a prism inside the elastic elements is inclined (col. 6, lines 5-13), as suggested by the Office. The small vibrating movement of the free end of the elastic elements is meant to guide the light beam perpendicular towards the tracks via the optics (col. 4, lines 15-17), not transversal directly to the tracks as set forth in claim 1 of the present invention.

The access unit according to the present invention has a rigid integrated structure from end to end and the whole access unit is movable three-dimensionally in relation to the pivot point. Consequently, it would not be obvious to a person of ordinary skill in the art at the time of the invention to combine the teachings of *Wakabayashi* with the teachings of *Spruit* to arrive at the invention disclosed in claim 1; namely, arranging the access unit (stiff and rigid structure) to pivot on one end at the pivot point in order to move three-dimensionally in relation to the pivot point.

Claims 3-5, 7-9, 23-26, 33 and 34 are dependent from claim 1 and recite features not recited in claim 1. For reasons regarding claim 1 above, claims 3-5, 7-9, 23-26, 33 and 34 are also distinguishable over *Spruit* in view of *Wakabayashi*.

Applicants have added a means-plus-function claim 50, based on claim 1. No new matter has been introduced.

At section 8 of the office action, claims 27-32 and 35-49 are allowed over the prior art of record.

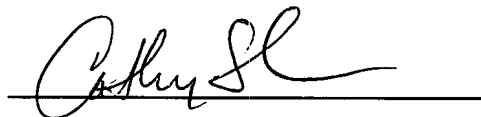
At section 9 of the office action, claims 2, 6 and 10-22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. For reasons regarding claim 1 above, claims 2, 6 and 10-22 are allowable in their dependent form.

**CONCLUSION**

In view of the foregoing, claims 1-50 are allowable. Early allowance of all pending claims is earnestly solicited.

Respectfully submitted,

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Cathy A. Sturmer  
Agent for Applicants  
Reg. No. 60,869

WARE, FRESSOLA, VAN DER SLUYS  
& ADOLPHSON LLP  
Bradford Green, Building Five  
755 Main Street, P.O. Box 224  
Monroe, CT 06468  
Telephone: (203) 261-1234  
Facsimile: (203) 261-5676  
USPTO Customer No. 004955